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ABSTRACTS

ISPOR 14TH ANNUAL EUROPEAN CONGRESS RESEARCH ABSTRACTS

PODIUM SESSION I: ASSESSING EFFECT OF MEDICATION ADHERENCE AND PERSISTENCE ON COST-EFFECTIVENESS

AD1

COMPLIANCE MEASUREMENT USING ADMINISTRATIVE DATA FROM GERMAN SICKNESS FUNDS

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OBJECTIVES: To compare refill compliance and refill persistence measures as to their accuracy in identifying patients with schizophrenia at risk of temporary discontinuance or complete cessation of antipsychotic pharmacotherapy. **METHODS:** Data was obtained from three German sickness funds with approximately 7 million insured (9.9% of SHI members). Information on age, sex, prescription related information and hospitalization were collected. A total of 1484 patients with schizophrenia (ICD-10 F20) who were treated in hospital and subsequently received antipsychotic long-term pharmacotherapy were evaluated. Refill compliance measures based on single-interval availability, multiple-interval availability, as well as refill persistence were calculated for each patient over one year. The resulting 10 derivative measures were compared with respect to their performance in predicting six-month rehospitalization using multivariate logistic regression. C-statistics were calculated to determine each model's predictive performance. **RESULTS:** Likelihood ratio tests showed that the inclusion of a compliance variable significantly improved the predictive performance in six out of ten models over the baseline model with age, sex and severity ($p<0.05$). Refill compliance as a continuous variable of medication persistence including transfer of oversupplies into subsequent periods, performed best in predicting rehospitalization (C=0.669). Availability ratios capped at 100% were superior to default availability ratios in predicting rehospitalization. Allowing for cross-period carryover improved the discriminatory performance of our persistence models. **CONCLUSIONS:** Persistence measures appear sufficiently flexible to account for interruptive events, i.e. hospitalization, common in schizophrenia and other psychiatric diseases. It is recommended to use a continuous refill persistence measure to assess compliance in psychiatric conditions when working with administrative data.

AD2

COST-CONSEQUENCE ANALYSIS OF SWITCHING FROM AN ORAL ANTIPSYCHOTIC TO LONG ACTING INJECTABLE RISPERIDONE AMONG PATIENTS WITH SCHIZOPHRENIA

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OBJECTIVES: Lack in treatment adherence in schizophrenia often leads to an increase of relapses and, consequentially, to an increase for direct health care costs (eg, hospitalizations). The aim of the SMART study (Schizophrenia Medications Adherence: long-acting Risperidone versus other Therapies) is to assess the variation in total health-related costs among schizophrenic patients switching from oral antipsychotics to Long Acting Injectable Risperidone (LAI-R). **METHODS:** A multicenter, retrospective observational cohort study based on Local Health Units administrative databases was conducted. Patients with a diagnosis of Schizophrenia, schizotypal and delusional disorders, with a first prescription of LAI-R between January 1, 2007 and December 31, 2008 and a previous treatment with oral antipsychotics were enrolled. Direct medical costs (drugs, hospitalizations, Department of Mental Health services, outpatient specialist services) were evaluated during the 12 months preceding and following the date of inclusion. **RESULTS:** A total of 116 patients were enrolled, 57 male and 59 female, aged 49±17 years old. Total average disease-related cost per patient was €5.003,49 during the period preceding LAI-R and €4.138,62 during the LAI-R period (-€864,88, -17%, $p=0.021$). The cost increase for antipsychotic drugs (from €291.41 to €2445.94, $p<0.001$) was offset by a cost reduction for semi-residentiality (from €276.69 to €23.78, $p=0.884$), residentiality (from €2,669.90 to €831.52, $p=0.004$), Department of Mental Health services (from €77.25 to €479.88, $p<0.001$) and hospitalizations (from €1723.67 to €772.61, $p=0.005$); we registered a decrease in mean length of stay (LOS) (from 4.1 days to 1.2, $p=0.002$) and in the number of hospitalizations per patient (from 0.27 to 0.08, $p<0.001$); 24% patients were hospitalized during the period preceding LAI-R and 8% during the LAI-R period. Moreover, the cost for services not related to schizophrenia showed a slight reduction (from €1318.78 to €1016.62, $p=0.417$). **CONCLUSIONS:** This therapeutic strategy appears to be cost saving, especially with regard to the reduction in hospitalizations.

AD3

ASSESSING THE COMPLIANCE AND PERSISTENCE OF ALLERGEN IMMUNOTHERAPY IN ALLERGIC RHINITIS USING A RETROSPECTIVE PHARMACY DATABASE FROM THE NETHERLANDS

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OBJECTIVES: Long-term compliance and persistence has been poorly assessed in allergen immunotherapy for allergic rhinitis, a frequently applied but costly (€1543/year, 2009 figures), treatment for an increasingly prevalent disease. Allergen immunotherapy with pollen and/or mites requires a three to five year long course of treatment. Immunotherapy may be administered sublingually(SLIT) at home, or subcutaneously(SCIT) at the doctor's office. This study aims to assess the long-term compliance and persistence of allergen immunotherapy and the costs of premature cessation of immunotherapy. **METHODS:** Data from over 8,000 users who started allergen immunotherapy between 1994 and 2009 were extracted from a representative, commercially available database (the PHARMO institute, The Netherlands). Data included drug name, type of allergen, amount of drug prescribed, route of administration, type of prescribing physician, pharmacy visit date, socioeconomic status (SES), sex, age, pharmacy costs and revenues. Compliance was defined as the number of late pharmacy visits, persistence was defined as the total duration of treatment of at least three years. Time to treatment discontinuation was analyzed using Kaplan-Meijer curves and Cox proportional hazard models. **RESULTS:** A total of 48% of SLIT users and 37% of SCIT users discontinued therapy before the first year, and 23% of SLIT users and 37% of SCIT users continue immunotherapy for at least three years. SLIT is predominantly prescribed by GPs, and SCIT by allergologists. 2.6 late pharmacy visits were recorded per patient (SD 2.2). Sex was not a significant predictor of persistence, but higher age, SES, and a rural place of residence were. Nonpersistent behavior is associated with drug costs of over 50M euros over the observation period. **CONCLUSIONS:** A significant difference in persistence exists between users of SLIT and SCIT in favor of the latter. The high costs associated with non-persistence ask for both patient and doctor education and warrants the use of compliance devices.

AD4

HEALTH OUTCOMES AS A FUNCTION OF INTENTIONAL AND UNINTENTIONAL NON-ADHERENCE AMONG ELEVEN COSTLY CONDITIONS IN THE EU

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OBJECTIVES: Patient non-adherence to medications is associated with poorer health status; yet, intentional (e.g., purposefully skipping doses) and unintentional (e.g., forgetting) non-adherence can reflect distinct patient characteristics. This study investigates the burden of intentional (INA) or unintentional (UNA) nonadherence among eleven costly chronic conditions. **METHODS:** EU 2010 National Health and Wellness Survey data were used, including 19,279 (of 57,805) respondents who reported taking prescription medication for any of these conditions: asthma, pain, congestive heart failure (CHF), COPD, diabetes, hypertension, depression, bipolar disorder, peripheral vascular disease (PVD), transient ischemic attack (TIA), and stroke. Morisky Medication Adherence Scale items were summed to create INA ("stop taking medicine when feeling better" and ". . .when feeling worse") and UNA ("forget to take medicine" and "careless about taking medicine") scores ranging from 0_adherence (reference) to 1_moderate and 2_high nonadherence. Generalized linear models predicted health utilities (scored from the SF-12v2) from INA or UNA, controlling for sociodemographic characteristics and comorbidities. **RESULTS:** Among those taking medication for asthma (n_3147), pain (n_6605), CHF (n_248), COPD (n_584), diabetes (n_3062), hypertension (n_8821), depression (n_3714), bipolar disorder (n_240), PVD (n_106), TIA (n_287), or stroke (n_356), 49.7% were male, mean age was 52.9 years (SD_15.0), and 32.3% and 30.8% exhibited some INA and UNA, respectively (rINA/UNA_0.34, p_0.001). Across conditions, adjusting for covariates, high (b_-0.040) and moderate (b_-0.028) INA was associated with lower health utilities, as was high UNA (b_-0.017), all p_0.001. This pattern was significant for high non-adherence in diabetes (INA: b_-0.058; UNA: b_-0.023) and hypertension (INA: b_-0.054; UNA: b_-0.032), p_0.01; it was on average non-significantly negative within other conditions, but significantly positive in pain and PVD. **CONCLUSIONS:** These results suggest INA may have a stronger negative impact on health status than UNA, which can help guide adherence-improving intervention strategies. The results also highlight disease areas in which interventions may yield better outcomes.